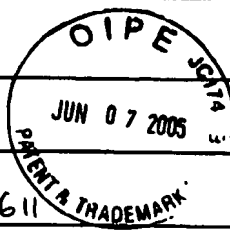


Sheet 1 of 2		INFORMATION DISCLOSURE STATEMENT					
FORM PTO 1449 (modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE LIST OF REFERENCES CITED BY APPLICANT(S) <i>(Use several sheets if necessary)</i> Date Submitted to PTO: June 7, 2005				ATTY DOCKET NO. 2003_1578		SERIAL NO. 10/695,780	
				APPLICANT Mitsuaki OSHIMA			
				FILING DATE October 30, 2003			
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	3,824,548	7-16-74	Sullivan et al.			
PP	AB	3,959,726	5-25-76	Hinoshita et al.			
PP	AC	4,303,939	12-1-81	Stephens et al.			
PP	AD	4,303,941	12-1-81	Marti et al.			
PP	AE	4,309,726	1-5-82	Tanaka et al.			
PP	AF	4,535,352	8-85	Haskell			
PP	AG	4,564,858	1-14-86	Resch			
PP	AH	4,581,639	4-8-86	Judge			
PP	AI	4,769,819	9-6-88	Matsutani et al.			
PP	AJ	4,794,447	12-27-88	Tsinberg			
PP	AK	4,800,426	1-24-89	Glenn			
PP	AL	4,817,192	3-28-89	Phillips et al.			
PP	AM	5,007,088	4-9-91	Ooi et al.			
PP	AN	5,029,003	7-91	Jonnalagadda			
PP	AO	5,134,464	7-28-92	Basile et al.			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
PP	AP	5-327807	12-10-93	Japan			abstract
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)							
PP	AQ	Masafumi SAITO et al., "Bit Error Rate Characteristics of OFDM in Multipath Environment", 1991					
PP	AR	Ryutaro OHMOTO et al., "π/4-shift QPSK Subcarrier Transmission", 1991					
EXAMINER				DATE CONSIDERED			
pphr				10/17/07			

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include cop. this form with next communication to applicant.

Sheet 2 of 2		INFORMATION DISCLOSURE STATEMENT							
FORM PTO 1449 (modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary) Date Submitted to PTO: June 7, 2005				ATTY DOCKET NO. 2003_1578		SERIAL NO. 10/695,780			
				APPLICANT Mitsuaki OSHIMA					
				FILING DATE October 30, 2003		GROUP 2634 2611			
U.S. PATENT DOCUMENTS									
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE		
PP	AA	5,181,112	1-19-93	Citta et al.	/	/			
PP	AB	5,377,051	12-27-94	Lane et al.					
PP	AC	5,400,084	3-21-95	Scarpa					
PP	AD	5,576,902	11-19-96	Lane et al.					
PP	AE	5,218,622	6-8-93	Fazel et al.					
PP	AF	5,561,468	10-1-96	Bryan et al.					
PP	AG	5,598,220	1-97	Citta et al.					
PP	AH	5,802,241	9-1-98	Oshima					
PP	AI	5,214,656	5-25-93	Chung et al.					
FOREIGN PATENT DOCUMENTS									
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO		
PP	AJ	7-264148	10-13-95	Japan	/	/	abstract		
PP	AK	7-322219	12-8-95	Japan			abstract		
PP	AL	3-48587	3-1-91	Japan			abstract		
	AM								
	AN								
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)									
PP	AO	J. A. C. Bingham, "Multicarrier Modulation for Data Transmission: An Idea Whose Time Has Come", IEEE Communications Magazine, Vol. 28, May 1990, pages 5-8 and 11-14							
PP	AP	B. Hirosaki, "An Orthogonally Multiplexed QAM System Using the Discrete Fourier Transform", IEEE Transactions on Communications, Vol. Com-29, No. 7, July 1981, pages 982-989							
PP	AQ	L. J. Cimini, Jr., "Analysis and Simulation of a Digital Mobile Channel Using Orthogonal Frequency Division Multiplexing", IEEE Transactions on Communications, Vol. Com-33, No. 7, July 1985, pages 665-675 and Annex							
EXAMINER				pphm					
				DATE CONSIDERED 11/4/07					

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include cop. this form with next communication to applicant.

10/30/03

Sheet 1 of 7

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: October 30, 2003

ATTY DOCKET NO.
2003_1578SERIAL NO.
NEW

10/695,780

APPLICANT
Mitsuaki OSHIMAFILING DATE
October 30, 2003

GROUP

2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	5,311,550	5-10-94	Fouche et al.			
PP	AB	4,630,287	12-16-86	Armstrong			
PP	AC	4,271,527	6-2-81	Armstrong			
PP	AD	5,050,188	9-17-91	Dirr			
PP	AE	5,398,073	3-14-95	Wei			
PP	AF	5,452,015	9-19-95	Hulyalkar			
PP	AG	5,565,932	10-15-96	Citta et al.			
PP	AH	5,481,412	1-2-96	Bannai et al.			
PP	AI	3,909,721	9-30-75	Bussgang et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
PP	AJ	0365431	4-25-90	EP				X
PP	AK	0485105	5-13-92	EP			X	
PP	AL	92/14343	8-20-92	WO			X	
PP	AM	89/08366	9-8-89	WO			X	
PP	AN	0031193	7-1-81	EP			X	

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

PP	AO	Shinji Matsumoto et al., "200 Mb/s 16 QAM Digital Radio-Relay System Operating in 4 and 5 GHz Bands", Japan Telecommunications Review, January 1982, vol. 24, no. 1, pages 65-73.
PP	AP	M. Pecot et al., "Compatible Coding of Television Images, Part 2. Compatible System", Signal Processing Image Communication, October 2, 1990, no. 3, pages 259-268.
PP	AQ	Mitsuaki Oshima, "Constellation-Code Division Multiplex for Digital HDTV", IEEE, 1992, pages 1086-1092.

EXAMINER

PPH

DATE CONSIDERED

10/17/07

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include cop. this form with next communication to applicant.

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: October 30, 2003

ATTY DOCKET NO.
2003_1578SERIAL NO.
NEW

10/ 695, 780

APPLICANT
Mitsuaki OSHIMAFILING DATE
October 30, 2003

GROUP

2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	4,227,152	10-7-80	Godard et al.			
PP	AB	4,525,846	6-25-85	Bremer et al.			
PP	AC	4,751,478	6-14-88	Yoshida			
PP	AD	4,891,806	1-2-90	Farias et al.			
PP	AE	4,903,125	2-20-90	Parker			
PP	AF	4,937,844	6-26-90	Kao			
PP	AG	5,164,963	11-17-92	Lawrence et al.			
PP	AH	5,555,275	9-1996	Oshima			
PP	AI	5,565,926	10-15-96	Bryan et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
PP	AJ	0311188	4-12-89	EP			X	
PP	AK	0329158	8-23-89	EP			X	
PP	AL	64-5135	1-10-89	JP			X	
PP	AM	63-28145	2-5-88	JP			X	
PP	AN	62-133842	6-17-87	JP			X	

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

PP	AO	Tricia Hill et al., "A Performance Study of NLA 64-State QAM", IEEE Transactions on Communications, vol. COM-31, June 1983, no. 6, pages 821-826.
PP	AP	Hideki Ishio et al., "A Proposal of a Carrier Digital Transmission System Using Multi-Level APSK", pages 1-20.
PP	AQ	Shanmugam, "Digital and Analog Communication Systems" 1979, p. 272.

EXAMINER

phuongphn

DATE CONSIDERED

10/17/07

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: October 30, 2003

ATTY DOCKET NO.
2003_1578SERIAL NO.
NEW

10/ 695,780

APPLICANT
Mitsuaki OSHIMAFILING DATE
October 30, 2003

GROUP 2611

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	5,105,442	4-14-92	Wei			
PP	AB	4,048,572	9-13-77	Dogliotti et al.			
PP	AC	5,282,019	1-25-94	Basile et al.			
PP	AD	5,311,547	5-10-94	Wei			
PP	AE	5,267,021	11-30-93	Ramchandran et al.			
PP	AF	5,038,219	8-6-91	Yamashita et al.			
PP	AG	5,087,975	2-11-92	Citta et al.			
PP	AH	5,086,340	2-4-92	Citta et al.			
PP	AI	5,243,629	9-7-93	Wei			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
PP	AJ	53-137657	12-1-78	JP			X	
PP	AK	0282298	9-14-88	Europe			X	
PP	AL	0392538	10-17-90	Europe			X	
PP	AM	0490552	6-17-92	Europe			X	
PP	AN	0506400	9-30-92	Europe			X	

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

PP	AO	Khaled Fazel et al., Combined multilevel coding and multiresolution modulation, February 8, 1993, Pages 1081-1085
PP	AP	P. Hoehner et al., Performance of an RCPC-Coded OFDM-based Digital Audio Broadcasting (DAB) System, IEEE Global Telecommunications Conference "Globecom '91", December 2-5, 1991, Vol. 1 of 3, Pages 2.1.1 - 2.1.7
PP	AQ	K. M. Uz et al., Combined multiresolution source coding and modulation for digital broadcast of HDTV*, 1992, Pages 283-292

EXAMINER

pplm

DATE CONSIDERED

10/17/07

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: October 30, 2003

ATTY DOCKET NO.
2003_1578SERIAL NO.
NEW

10/695,780

APPLICANT
Mitsuaki OSHIMAFILING DATE
October 30, 2003

GROUP

2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	5,142,353	8-25-92	Kageyama et al.			
PP	AB	5,197,061	3-23-93	Halbert-Lassalle et al.			
PP	AC	5,291,289	3-1-94	Hulyalkar et al.			
PP	AD	5,166,924	11-24-92	Moose			
PP	AE	4,940,954	7-10-90	Aubert et al.			
PP	AF	5,128,758	7-7-92	Azadegan et al.			
PP	AG	5,038,402	8-6-91	Robbins			
PP	AH	5,638,112	6-10-97	Bestler et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
PP	AI	0448492A1	9-25-91	Europe				X
PP	AJ	0485108A2	5-13-92	Europe			X	
PP	AK	0525641A2	2-3-93	Europe			X	
PP	AL	0540231A2	5-5-93	Europe			X	
PP	AM	0531046A2	3-10-93	Europe			X	

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

PP	AN	K. M. Uz et al., Multiresolution Source and Channel Coding for Digital Broadcast of HDTV, 1992, Pages 61-69.
PP	AO	Nambi Seshadri et al., Multi-Level Block Coded Modulations with Unequal Error Protection for the Rayleigh Fading Channel, Vol. 4, No. 3, May-June 1993, Pages 325-334.
PP	AP	William F. Schreiber, Spread-Spectrum Television Broadcasting, SMPTE Journal, August 1992, Pages 538-549.

EXAMINER

pphu

DATE CONSIDERED

10/17/07

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include cop. this form with next communication to applicant.

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: October 30, 2003

ATTY DOCKET NO.
2003_1578SERIAL NO.
NEW

10/ 695,780

APPLICANT
Mitsuaki OSHIMAFILING DATE
October 30, 2003

GROUP 2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	5,063,445	11-5-91	Nishizawa et al.			
PP	AB	5,819,000	10-6-98	Oshima			
PP	AC	5,999,569	12-7-99	Oshima			
PP	AD	5,892,879	4-6-99	Oshima			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
PP	AE	7-99522	4-11-95	Japan			abstract	
PP	AF	7-79415	3-20-95	Japan			abstract	
PP	AG	5-75568	3-26-93	Japan			abstract	
PP	AH	86-07223	12-4-86	WO			X	
PP	AI	2 187 611	9-9-87	Great Britain			X	
PP	AJ	85/04541	10-10-85	WO			X	
PP	AK	04-196822	7-16-92	Japan			abstract	
PP	AL	2-166979	6-27-90	Japan			abstract	
PP	AM	64-74836	3-20-89	Japan			abstract	
PP	AN	53-108215	9-20-78	Japan			abstract	

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

PP	AO	Martin Vetterli et al., Multiresolution Coding Techniques for Digital Television: A Review, Multidimensional Systems and Signal Processing, Volume 3, May 1992, Pages 161-187.
PP	AP	Ezio Biglieri et al., Introduction to Trellis-Coded Modulation with Applications, April 6, 1992, Pages 173-207.
PP	AQ	English Language Abstract of European Patent No. 93 30 7575

EXAMINER

tphm

DATE CONSIDERED

10/17/07

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: October 30, 2003

ATTY DOCKET NO.
2003_1578SERIAL NO.
NEW

10/ 695,780

APPLICANT
Mitsuaki OSHIMAFILING DATE
October 30, 2003

GROUP 2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	4,636,876	1-13-87	Schwartz			
PP	AB	4,855,692	8-8-89	Kennard et al.			
PP	AC	4,873,701	10-10-89	Tretter			
PP	AD	4,958,360	9-18-90	Sari			
PP	AE	5,115,453	5-19-92	Calderbank et al.			
PP	AF	5,168,509	12-1-92	Nakamura et al.			
PP	AG	5,600,672	2-4-97	Oshima et al.			
PP	AH	6,049,651	4-11-00	Oshima			
PP	AI	6,256,357	7-3-01	Oshima			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
PP	AJ	0122805	10-24-84	EP			X
PP	AK	63-180280	7-25-88	JP			abstract
PP	AL	64-68144	3-14-89	Japan			abstract
PP	AM	5-218978	8-27-93	Japan			X
PP	AN	3-69295	3-25-91	Japan			X

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

PP	AO	Kazuhiko Nitadori, Synthesis of Multichannel Orthogonal VSB Signals by Quadrature Method, 1976 International Conference on Communications, June 14-16, 1976, Volume 1, Pages 3-25 - 3-29.
PP	AP	Thomas M. Cover, Broadcast Channels, IEEE Transactions on Information Theory, January 1972, Pages 2-14
PP	AQ	"Optimum Weighted PCM for Speech Signals", Sundberg, IEEE Transactions on Communications, Volume COM-26, No. 6, June 1978, Pages 872-881.

EXAMINER

pph

DATE CONSIDERED

10/17/07

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: October 30, 2003

ATTY DOCKET NO.
2003_1578SERIAL NO.
NEW

10/695,780

APPLICANT
Mitsuaki OSHIMAFILING DATE
October 30, 2003

GROUP

2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	5,170,413	12-8-92	Hess et al.			
	AB						
	AC						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
PP	AD	57-39629	3-4-82	Japan			abstract	
PP	AE	58-161547	9-26-83	Japan			abstract	
PP	AF	63-180222	7-25-88	Japan			abstract	
PP	AG	92/22162	12-10-92	WO			X	
PP	AH	2-94814	4-5-90	Japan			abstract	
PP	AI	61-70861	4-11-86	Japan			abstract	
PP	AJ	2-218279	8-30-90	Japan			abstract	
PP	AK	2,095,435	5-10-92	Canada			X	
PP	AL	91/20137	12-26-91	WO			X	
PP	AM	2-141049	5-30-90	Japan				X
PP	AN	2-195732	8-2-90	Japan			abstract	
PP	AO	5-167633	7-2-93	Japan			abstract	
PP	AP	2-260726	10-23-90	Japan				X
PP	AQ	58-161427	9-26-83	Japan			abstract	

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR	
	AS	

EXAMINER

Pphn

DATE CONSIDERED

10/17/07